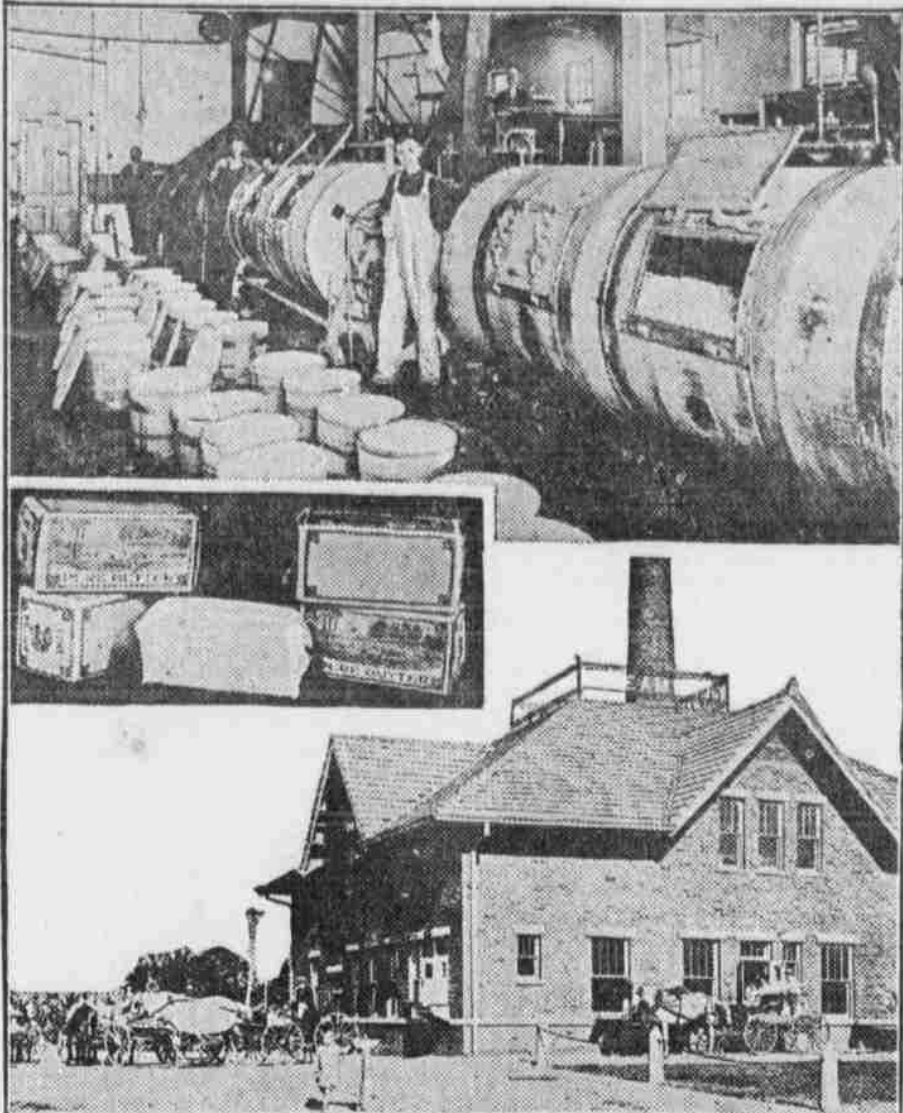


## Helping the Meat and Milk Supply

(Special Information Service, United States Department of Agriculture.)  
**BUTTER—MAKING IT GOOD AND SAFE FOR YOU.**



It May Take \$100,000 Worth of Creamery Equipment to Produce Your Pound of Butter.

## BUTTER MAKING IS EXPERT WORK

Process Is Just as Technical as Manufacture of Piece of Cotton Cloth.

## MILK IS SKIMMED ON FARM

Cream Is Tested, Pasteurized, Cooled and "Ripened" Before Churning—Disease Germs and Bacteria Destroyed.

This is the story of creamery butter—the steps in the manufacture of the high-grade product which comes to your table each week. Taking this food for granted, you probably have not realized the rather intricate and technical process through which it passes from milk to the finished product. If this story will inspire a sympathy which leads to a more careful and conservative use of butter it will have served its purpose.

The process of manufacturing creamery butter in a modern factory is just as technical as the manufacture of a piece of cotton cloth. In most instances the milk is skimmed on the farm by means of a hand-operated centrifugal separator, which extracts the cream much more efficiently than the old-time gravity system. The cream may be hauled to the creamery by the farmer or it may be shipped in from a farm 100 or more miles away.

As the cans of cream arrive they are inspected and sampled in order to determine their value for buttermaking. The cream is then poured into huge vats holding 300, 600, or more gallons. In each of which is a coil, or similar device, that when put in motion agitates the cream and thoroughly mixes it. Hot water and steam can be turned into these coils to heat the cream. In many creameries the cream is heated in this way to a temperature of about 145 degrees F., held at that temperature for about 30 minutes and then cooled. The process is known as pasteurization. The object is to kill any disease germs that may be in the cream and to destroy nearly all other bacteria. This protects the health of the consumer, improves the keeping properties of the butter, and enables the creameryman to control the ripening of the cream and develop the proper flavor; it also insures a uniform flavor in the butter.

**A Starter Produces Flavor.**  
 By running cold water through the coils in the vat the cream is cooled to a temperature of between 60 and 70 degrees F., and then a quantity of starter is added to produce the flavor. The starter is a culture containing many millions of lactic-acid bacteria grown in pasteurized skim milk until the milk has soured and curdled. The lactic-acid bacteria produce the desirable flavor in ripened-cream butter. When the cream is sufficiently ripened or soured it is cooled to a temperature of between 40 and 60 degrees F. and held at that temperature for two hours or more, after which it is run into one of the huge churns which have a capacity of 1,000 or more pounds of butter. Although commonly called churns, they really are combined churns and workers, because, unlike home butter-making, the butter is both churned and worked in the machine.

The churn is filled only one-third or one-half full, so that when revolved the cream which is carried up by the motion of the churn has plenty of room to fall. The concussion thus produced causes the minute globules of butterfat to gather into granules of butter. When the churn is stopped after having been run for about an hour granules of butter about the size of grains of wheat or corn will be floating on the surface of the buttermilk. Then the buttermilk is drawn off through a hole in the bottom of the churn and the butter granules washed with pure, cold water. After draining, salt is added to the granular butter which is still in the churn.

The big wooden rollers are then put into gear, the churn started and the butter worked in the churn until the salt is all dissolved and the butter has a waxy body. The butter is removed and packed into tubs or made into pound prints and put into cartons in the form in which it goes to the consumer.

**Many Scientific Tests Made.**  
 Many creameries have well-equipped laboratories in which the numerous scientific tests that are a part of the creamery business are made. A sample of every can of cream that is received is tested by means of the Babcock test in order to determine the per cent of butterfat. By this means the pounds of butterfat for which the farmer is to be paid is determined. The sourness or acidity of the cream or milk is determined by means of another test which involves the use of carefully calibrated glassware. In order that the buttermaker may be able to turn out butter having approximately the same composition day after day he tests a sample of butter from each churning for moisture and salt. Both of these tests require skillful workmanship and the use of delicate scales. Because of the highly specialized and

## MAKE THE SOWS EXERCISE.

One of the biggest hindrances to the farrowing of good, strong, vigorous litters is lack of exercise for the sows. During cold and snowy weather hogs like to lie around the sleeping quarters and be comfortable. That, however, is not what they should do all of the time. The proper exercise for a brood sow is that which she will take voluntarily and not through force. She should get her corn ration by hustling for it in the stalk fields and not by getting it around the sleeping quarters, on feeding floors, or in troughs. Protein feeds in the form of shorts, tankage, oil meal, or alfalfa hay should be supplied.

technical apparatus used in a creamery the operator of the factory must necessarily be a technically trained man, and in fact many are graduates of special courses at the state agricultural colleges. On account of the large and expensive machinery required the creamery business demands the investment of considerable capital. The small country creamery may possibly be built and equipped for less than \$10,000, but many of the larger plants cost more than \$100,000.

# WHO'S WHO in the WORLD

## NEWSBOY TO RAILWAY HEAD

From newsboy to railway president. Such is the achievement of William P. Kenney, who has just become president of the Great Northern railway. Louis W. Hill, chairman of the board of directors, will continue as active as heretofore in the management of the railway system his father built.

Selling newspapers was the starting point of Kenney's career, back in the eighties. He progressed step by step, later becoming a Western Union messenger boy. The clicking of the telegraph instrument was a lure to him. He mastered the key and became an operator.

That opened the way for Kenney's railway career. He turned his attention to traffic and before he was forty became a recognized traffic authority. In 1912 Kenney was made vice president and traffic manager of the Great Northern. He then came into close executive association with James J. Hill and L. W. Hill, who had a high regard for the young man's keen knowledge of traffic affairs. From their youth up Louis W. Hill and William Kenney have been closely associated in railroad affairs, first as clerks and later in management.



## LIND REPRESENTS PUBLIC



In the advisory council formed by Secretary Wilson to assist in carrying out the war labor program the public is represented by John Lind, former governor of Minnesota, and chairman of the council.

Like Senator Knute Nelson, whose political rival Mr. Lind has been ever since he went over to the Democratic party, he is of Scandinavian birth and parentage. He was born in the Parish of Kanna, Sweden, in 1854. When he was thirteen he came with his father to the United States and settled at Goodhue, Minn. He attended the public schools, studied law and was admitted to the bar in 1876. In 1881 Mr. Lind was appointed by President Garfield receiver of the United States land office at Tracy, Minn. Five years later he was elected a representative to congress and was re-elected in 1888 and 1900.

At the opening of the Spanish war Mr. Lind became quartermaster of the Fifteenth Minnesota Volunteer infantry, with the rank of first lieutenant, serving in this capacity until the regiment was mustered out. In 1896 he was a nominee for governor of Minnesota, but was defeated. In 1898 he was elected and in 1900 defeated again. After this he took up his residence in Minneapolis and turned again to his law practice, which he interrupted two years later to serve again as representative. The next interruption came in 1913, when he went to Mexico as President Wilson's envoy and personal representative.

## NEW CHIEF OF STAFF

Maj. Gen. Peyton Conway March, lately appointed acting chief of staff, has the unofficial designation of speeder. A man of quick decisions, as he has proved himself to be both in military campaigns and in the direction of semicivil governments in newly acquired American possessions, he is thought to be admirably fitted for the new role.

Participating in two expeditions to the Philippines, his name is associated not only with many of the decisive battles and campaigns in those islands, but with the names of some of the most notable of the Filipino leaders who were captured or forced to surrender.

General March is a son of the late Francis Andrew March, long a professor in Lafayette college, and his brother, Francis Andrew, Jr., is now a member of the faculty of that institution. Peyton Conway March is himself a graduate of Lafayette, but military life rather than the classroom appealed to him, and in the very year that he finished his academic course, 1884, he entered West Point.



## MAN BEHIND THE ORDNANCE



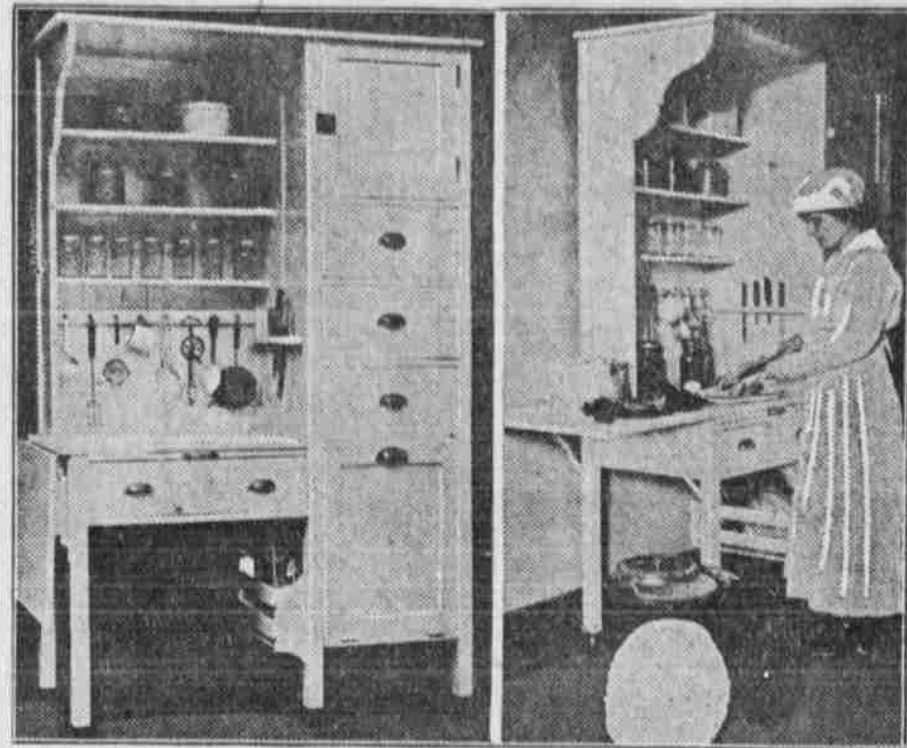
The task of supervising and stimulating the production of all ordnance supplies is now in the hands of Guy Eastman Tripp, whose appointment as chief of the production division of the ordnance bureau was recently announced by Major General Crozier.

Mr. Tripp, who for six years has been chairman of the board of the Westinghouse Electric company, probably has had as close associations as any man in the country with the development of electric traction. He started his career in railroad work when he was seventeen, and went over to the electrical branch when he was twenty-five.

Mr. Tripp was born in Wells, Me. in 1865. He entered the employ of the Eastern railroad before its consolidation with the Boston & Maine. Later he was employed by the Thomson-Houston Electric company on the work of changing the West End Street railway of Boston from a horse car system to an electric system. Upon completion of that work and at the time of the consolidation of the Thomson-Houston firm with the Edison company, out of which came the General Electric company, he became traveling auditor for the latter. In 1897 he became connected with Stone & Webster, and was vice president of the Stone & Webster Management association and of the Stone & Webster Engineering corporation. He has advised and directed in the financing, organization and reorganization of some of the largest public service corporations in the United States.

## The Housewife and the War

(Special Information Service, United States Department of Agriculture.)  
**CABINET IS HOUSEWIFE'S WORKING PARTNER.**



A Homemade Cabinet That Is Sanitary, Convenient and Attractive—Not Expensive.

## KITCHEN HELPER FOR HOUSEWIVES

Cabinet Saves Walking To and Fro Necessary in Preparation of Food.

## WELL-SEASONED WOOD BEST

Convenience Especially Suitable Where Space Is Limited—Place Provided for Fireless Cooker When Not in Use.

A kitchen cabinet is just as important to the housekeeper as the bench to the workman or the laboratory desk to the chemist. With it the housekeeper can sit down comfortably with her whole kitchen workshop easily within her reach. It saves walking to and fro to gather this thing and that to prepare the food. And every kitchen should have a stool of the right height to enable the worker to sit at her work at the cabinet. The home-made cabinet shown in the illustration is sanitary, convenient, and attractive. It is especially suitable and compact for kitchens in which cabinet space is limited.

A home-made cabinet can be built with moderate expense if outside labor need not be employed. If both lumber and labor must be purchased, the cost will equal that of a ready-made cabinet. The cabinet must be made of good wood, well seasoned. That is the most important consideration. Poorly seasoned wood warps and swells and is a constant annoyance in opening and closing doors and drawers.

## Dimensions of the Cabinet.

The cabinet shown in the illustration is 6 feet 3 inches high to the top of the closet, 31 inches high to the top of the table. It is 21 inches deep and 48 inches wide. The part of the cabinet below the table contains the flour bin, large drawer, rack and dough or pastry board. The bin is fastened to the frame with loose-pin hinges. By removing the pins the entire bin can be removed, cleaned, and replaced. The bin can be lined with tin to make

This is the first of a series of articles which will describe household conveniences. The difference between the tired, over-worked housekeeper and one who has some time and energy left for reading and recreation after the day's work is done, often may be accounted for by the kind of equipment used in the kitchen. Under the direction of the state and county home demonstration agents of the United States Department of Agriculture, home conveniences already have been installed in several thousand country homes. Such conveniences not only effect a real saving in the work of the home, but they help the farm woman to get a greater amount of happiness out of her daily tasks. Many of the improvements that will be described can be used as well in village and city homes.

it moisture, insect, and mouse proof. The dough board should be made of a wood that is tasteless and odorless and should be fitted well in the opening just below the table. A batten is tongued and grooved on each side of the board to prevent it from warping. The roomy drawer can be used for small utensils. The open space below the drawer can be occupied by the kitchen stool or the home-made fireless cooker when they are not in use. Pie pans, lids, and covers have a most convenient place in the rack be-

## SAVE A LITTLE SUGAR TODAY.

Candy at Meal Time Only. Candy is a concentrated food, and should be eaten with moderation. Though we like it, it is not a necessity. It is always best to eat candy as a part of the meal to replace some other food. Eating it between meals not only means needless use of sugar, but often causes a loss of appetite for other foods. Apply this suggestion to the children. If they are to eat candy it should be a part of the meal. Between meals let them have bread and butter, a cracker, or fruit.

low the drawer. A drop table 21 inches wide and 19 inches long increases the table surface. This table is supported by inexpensive folding brackets.

**Provisions for Many Things.**  
 The upper part of the cabinet consists of a closed compartment, three drawers, three open shelves, knife rack, and row of screw hooks for hanging utensils. The closed compartment is for package goods and large utensils. The drawers are for kitchen linen and other things needed in daily use. The lower shelf is 5 inches in depth, while the upper shelves are 7½ inches. On these shelves are kept coffee, tea, sugar, and spice jars. Three inches below the lower shelf is a strip 1½ inches wide which holds the screw hooks. The knife rack is made by sawing slashes 1 inch deep in a piece of material 2 inches wide. The cabinet is finished with two coats of white paint and one coat of white enamel. It can be easily kept clean and sanitary. Metal or wooden handles may be used.

## APPLE SCRAPPLE IS GOOD.

Fried apples are good with fried scrapple. Yes, answers the healthy appetite, even though it be not acquainted with fried scrapple. Every cook knows how to fry apples, many do not know how to make scrapple—excellent at any meal.

## Ingredients.

Whole hog heads.....pounds.. 10  
 Hog livers and hearts.....do..... 2½  
 (A small quantity of beef can be used also if desired.)  
 Corn meal (yellow or mixed).....pounds 6  
 Buckwheat or rye flour.....do..... ¼  
 Spices, as marjoram, sage, thyme, and pepper in proportion as desired, or omit those not desired.....oz..... 3  
 Salt.....pounds..... ¼  
 Liquid in which meat is boiled; use a quantity equal to the total weight of the combined solids.

The proportion of ingredients may be varied to individual taste.

**Directions for Preparing.**  
 Clean the hog heads thoroughly, removing the eyes and ear tubes. Split the head lengthwise and remove the teeth and the soft bones in and near the nasal cavities. Place the hog heads and other meat into a large kettle or caldron with a liberal quantity of water and cook until the meat falls off the bones. Remove all of the meat and soft tissues from the bones and chop the meat by passing it through a meat grinder. Strain the cooking liquid to remove any small pieces of bone. Place the liquid back into the kettle. Heat to boiling point, at which time slowly add the meal and flour, and stir constantly to prevent the meal from forming into lumps and also to avoid scorching. Boil and stir until the mass becomes thick, and then add the salt, spices, and chopped meat. Boil ten minutes, and while still hot, pour the product into deep wet molds—bread pans will do. Pour two to four large spoonfuls of melted lard over the product in the pans. As soon as the product has cooled it is ready for use.

The usual way of serving scrapple is to cut it into slices about one-half inch thick, dust the slices with flour or cracker dust, or dry cornmeal, and fry until the outside is somewhat crisp. Serve hot.